TUNA BAITFISH WORKSHOP
June 4-6, 1974, Honolulu, Hawaii

REPORT OF SESSION ON CULTURED BAITFISH SPECIES

Chairman : Richard S. Shomura
Rapporteur: Robert T. B. Iversen

A. References

Ref/3, Ref/6, Ref/7, Ref/10, Ref/11, WP/Gen/7, WP/Gen/13, WP/Gen 14(new), WP/CB/1, WP/CB/2, WP/CB/4, WP/CB/5, WP/CB/6, WP/CB/7, WP/CB/8, WP/BT/1.

B. Discussion

It was emphasized the results of this session should be recommendations and priorities for subsequent action in the further development of cultured baitfishes. Such guidelines, it was pointed out, are particularly needed by funding agencies such as Sea Grant, which has programs geared to applied research with a short-term payoff. It was recognized that many problems are of a long range nature; thus the overall development of cultured tuna baitfish must be considered on both a short range (i.e. 1-2 years) and long range basis. The fact that there is no single solution to the use of cultured baitfish which will solve the problems of all areas was repeatedly noted. Problems differ markedly from area to area, especially regarding such factors as the availability of land and fresh water. Several members of the group suggested studies on the economics of culture be initiated immediately and carried out on a continuing basis. The discussion of the results of field experiments to date brought out the fact that the design of field experiments needs to be critically reviewed, particularly the sample size necessary to obtain

Tuna baitfish culture - Principal factors

Item	Species				
	Threadfin shad	Tilapia	Mollies	Golden shiners	Apogon
Fecundity	14,000-16,000 eggs per female per year. Multiple spawnings	200-800 eggs per female per year (six times per year. 700-1,000 fry survival per female per year	1,600 per female per year	Unknown	Unknown
Hardiness	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Density tolerance	1,000 lb per acre per year (estimated possible)	Present: 8,000-13,000 lb per acre per year. Estimated: 25,000 lb per acre per year	18,000 lb per acre per year	800-1,600 lb per acre per year (one or two crops)	Unknown
Appearance re traditional bait	Same	Different	Different	Same	Different
Behavior:					
a. Culture	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Unknown
b. Used at sea	Satisfactory, but more tests needed	Satisfactory	Inconclusive	Inconclusive	Satisfactory
Ease of culture:					
a. Intensive	Not established	Good	Good	Not established	Unknown
b. Extensive	Good	Good	Good	Good	Unknown
Economics	$14 per bucket and 3,660 buckets per acre	$19.58 per bucket with profit; $1.06-1.65 reduced	$2.69 per bucket or $0.45 per lb (@ 30,000 buckets)	$4.00 per lb (air-shipped to Hawaii)	Unknown
Polyculture	Unknown	Unknown	Unknown	Unknown	Unknown

Tuna baitfish culture - Principal factors--Contd.

Item	Species				
	Threadfin shad	Tilapia	Mollies	Golden shiners	Apogon
9. State of the art re mass culture	Not much known	Known	Known	Known	Unknown
10. Field experiments to date	Inconclusive	Inconclusive	Inconclusive	Inconclusive	Satisfactory
11. What needs to be done?	1. Project costs, etc. Wahiawa Reservoir 2. Field test	1. Project proposal 2. Field test	1. Hawaii project proposal 2. Hawaii test 3. American Samoa	1. Project costs, etc. 2. Hawaii test	1. Life history research (fecundity)